

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

(DRAFT)

Conditional Major, Construction / Operating

Permit: F-05-037 R1

Dow Corning Corporation - Elizabethtown Plant

Elizabethtown, KY 42701

April 17, 2007

Julian Breckenridge, Reviewer

SOURCE ID: 21-093-00005

SOURCE A.I. #: 1658

ACTIVITY ID: APE20060005, APE20070001,  
APE20070002

**SOURCE DESCRIPTION:**

Dow Corning Corporation produces various specifications of silicone adhesives and sealants, and the source falls under the SIC codes 2891 & 2822, silicon adhesive and sealants production. Equipment at the plant is organized in the permit according to the sundry processing areas at this facility, inclusive of the support areas such as plant heating.

The potential to emit (as defined in 401 KAR 52:001, Section 1 (56)) of PM<sub>10</sub> and VOC are greater than one hundred (100) tons per year. The potential to emit (as defined in 401 KAR 52:001, Section 1 (56)) of any single HAP is equal to or greater than ten (10) tons per year and the combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the source has requested voluntary permit emission limits of nine (9) tons per year (tpy) or less of a single hazardous air pollutant (HAP), and 22.5 tpy or less of combined HAPs. The source also requested a voluntary emission limit of 90 tpy or less of volatile organic compounds (VOC), particulate matter less than 10 microns (PM<sub>10</sub>) and other criteria pollutants. Therefore, the source is subject to the provision of 401 KAR 52:030, *Federally enforceable permits for nonmajor sources*. As such, this source will not be a major source of HAP emissions, as defined in 40 CFR 63.2, and there are no *NESHAPs* (40 CFR 63 and 401 KAR 63) applicable to this source.

Dow Corning Corporation had submitted minor and significant revisions to the Division of Air Quality, that will be combined into the permit # F-05-037 R1. The following revisions are categorized, according by heading.

**1. MINOR PERMIT REVISION: ADDITION OF A FAST SILO (F-05-037 R1)**

On December 18, 2006 the Division of Air Quality received an application from Dow Corning Corporation for a minor revision. The source proposed on January 2007, the addition of a new emission point **BL** for a silo in the Press Mixer area, which currently contains the Next Generation Sealant Process (NGSP) and Horizontal Press Mixer (HPM). Due to a higher demand from production, it is necessary to have an additional filler silo at the site to feed the production at both the HPM and NGSP processes and another process in the future. This silo will be equipped with a baghouse to control particulate emissions during transfer. The new baghouse will have the same PM requirements as the rest of the filter units on site.

Moreover, a minor change at emission point **FL** (Ross Mixer #3) had been implemented in order to vent the mixer pot to the dust collector during a nitrogen sweep at the pot for industrial hygiene and safety purposes. This will increase the potential emissions from this emission point for VOC of 0.16 tons per year.

## **2. SIGNIFICANT PERMIT REVISION: PERMIT MODIFICATIONS (F-05-037 R1)**

The source had proposed on January 18, 2007 to the Division of Air Quality for changes to be made to its current permit F-05-037. Due to the fact that the maximum controlled particulate matter emissions do not meet or exceed the Allowable Rates Limit stated in 501 KAR 59:010, Dow Corning requested the removal of the **Specific Recordkeeping Requirements 5.c** in permit F-05-037, *"The permittee shall maintain records of the monthly production rates and the monthly operating hours of each Process Line,"* for the following areas: 02 Press Mixer Area (p. 6), 03 Werner-Pfleiderer (p. 8), 04 Batch Area (p. 13), 05 CU/WP-Oxime (p. 17), 011 Misc. Cleaning Operations (p. 25), and 012 Latex Process (p. 29). Also, areas 06 ABM Sylgard Tanks (p. 19), 07 Treated Silica Manufacturing (Tumbler) (p. 21-22), 08 Roof Coating Area (p. 21-22), and 09 Bulk Filler Storage (Silos) (p. 21-22) **Specific Recordkeeping Requirements** are to be worded to read as the following:

- a. Records of preventive maintenance performed for the filter units and the condensers in accordance with **7. Specific Control Equipment Operating Conditions** shall be maintained. Records may be computerized and shall be provided to the Division personnel upon request.
- b. Condenser vent flow rates, coolant flow rate through the condensers, and condenser coolant temperatures shall be continuously recorded by computer system or strip chart. A log of the results of the semiannual inspections performed on the condensers and filter units shall be maintained in accordance with **7. Specific Control Equipment Operating Conditions**.
- c. The permittee shall maintain a log of the dates and times of each qualitative visual observation: noting color, duration, density (dark or light), and cause.
- d. The permittee shall maintain a log of the dates and times of each EPA Reference Method 9 test and either the results of the test, or reasons for not performing an EPA Reference Method 9 test.

Condition 2 of the **Specific Control Equipment Operating Conditions**, in Section E of permit F-05-037, (p. 34) relating to all of the dust collections systems that are on site are to be omitted from the permit. The source is performing preventative maintenance, of which the information is submitted to the Division in the semi-annual monitoring reports, and weekly visual emission inspections to ensure the proper operation of the dust collection systems on site. Specific control equipment conditions are in section B of the permit for each emission unit. Moreover, the water flow for emission point **C2** (Werner-Pfleiderer Buffalo Scrubber) is to be changed from 150 gal/min to 54 gal/min, for nothing has changed with this emission point since their old permit F-97-005. The Specific Monitoring and Recordkeeping Requirements are to be removed from emission points containing natural gas boilers. Finally, emission point **S9** (p. 28) is to be omitted from the permit.

### **3. MINOR PERMIT REVISION: ADDITION OF AN INSIGNIFICANT TANK (F-05-037 R1)**

The source proposed on March 2007, the addition of a new raw material tank (emission point **BR** – T1-8121) at the NGSP process. Currently, the process uses a day tank that is filled via drums. This tank addition will allow the material to be delivered to the plant via tanker truck. The tank will use vapor balancing to control emissions. Nitrogen will be connected to the tanker and the tank will have a nitrogen blanket system. The headspace of the tank and the tanker will be connected together via nitrogen supply. As the tanker is unloaded, nitrogen and vapors from the tank will transfer from the tank to the tanker. This will prevent any venting to atmosphere during transfer to the tank. The material will then be transferred to the day tank inside when needed. The capacity of the tank has a volume of 10,000 gallons. Emission point **BR** will be classified as an insignificant activity.

### **4. MINOR PERMIT REVISION: ADDITION OF A NEW COMPOUNDER (F-05-037 R1)**

On March 16, 2007 the Division of Air Quality received an application from Dow Corning Corporation for a minor revision. The source proposed the addition of a new compounder called the NGSP2. It will be placed parallel to the current NGSP compounder and will also share some of its emission points. As a result, particulate emissions from existing emission point **B1** will increase 0.09 tpy. The potential VOCs will also increase due to the increase in the throughputs of the additive tanks now shared between NGSP1 and NGSP2. At emission point **B6** (NGSP Condenser), a new and more efficient condenser along with an upgraded ventilation system will be replacing the current condenser for NGSP1 and will be used also for NGSP2. The potential VOC emissions from emission point **B6** will decrease by 2.53 tpy.

Furthermore, new emission points are associated with NGSP2. Emission points **BM** (NGSP2 Filler Hopper #1) and **BN** (NGSP2 Filler Hopper #2) will be located above the compounder that will feed it from the silos. This is set up identical to NGSP1 and will increase the particulate potential emissions by 0.331 tpy. A new local exhaust called emission point **BQ** (Fast Local Exhaust) will be added to the area. This will increase the VOC potential to emit by 1.06 tpy. Emission point **BS** (Recovery Tank) will be used to recover the condensed methanol from the NGSP process and will be added as an insignificant activity because the potential to emit is only 0.004 tpy of VOCs. In addition, emission points **BO** (Fast Scale Exhaust #1) and **BP** (Fast Scale Exhaust #2) will be added as insignificant activities as well for the ventilation to the catalyst scales for industrial hygiene purposes. Finally, emission points **B4** (Bag Dump Hopper #2) and **S1** (T-6 Bag Dump Hopper) will be removed from the site. This will account for a decrease in potential particulate emissions of 0.187 tpy, collectively.

#### **COMMENTS:**

##### **1) Emission Units:**

EP	Description	Control Equipment
A1	Product Packaging (Silicone Sealant Packaging) Installation Date: 1976-2003	Scrubber (Packaging Spray) Installation Date: 9/2000

##### **a) Potential to Emit Calculations**

Manufacturer specifications were used to determine the VOC and HAP emissions from the product packaging area. The methodology used to calculate VOC and HAP emissions are consistent with that approved by DAQ during initial Conditional Major permit review.

b) Applicable Regulations

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

c) Non-applicable Regulations

401 KAR 63:021, *Existing sources emitting toxic air pollutants*. The permittee has demonstrated that the previous limitations in permit F-97-005 on the following toxic emissions (acetic acid, carbon black, chromium oxide, dimethylformamide and organic tin) based on the version of 401 KAR 63:021 with an effective date of November 11, 1986 are no longer necessary to protect human health and the environment. The potential to emit of each toxic emission is well below the allowable limit given in the previous permit; therefore, this rule no longer applies.

2) Emission Units: Press Mixer Area

EP	Description	Control Equipment
B1	Horizontal Press Mixer (Horizontal Pot Mixer)- 600/ETM Polymer Unit (Static Mixing Unit) Installation Date: 5/1990 / 8/1996	HPM Dust Collector Installation Date: 3/1990
B2	Horizontal Press Mixer - 600 (Horizontal Pot Mixer) Installation Date: 5/1990	HPM Condenser Installation Date: 3/1990
B3	Horizontal Press Mixer - 600 (Horizontal Pot Mixer) – HPM Bag Dump Hopper #1 Installation Date: 11/1992	Dust Collector Installation Date: 12/1992
B6	NGSP Process (Sealant Compounder) Installation Date: 11/1998	Condenser Installation Date: 5/2007
B7	NGSP Process (Sealant Compounder) Filler Hopper #1 Installation Date: 11/1998	Dust Collector Installation Date: 11/1998
B8	NGSP Process (Sealant Compounder) Filler Hopper #2 Installation Date: 11/1998	Dust Collector Installation Date: 11/1998
B9	NGSP Process (Sealant Compounder) Filler Hopper #3 Installation Date: 11/1998	Dust Collector Installation Date: 11/1998
BD	NGSP Process (Sealant Compounder) Silo #1 Installation Date: 7/1985	Dust Collector Installation Date: 2/1999
BH	Horizontal Press Mixer – 600 Installation Date: 5/1990	HPM Silica Dust Collector Installation Date: 6/1999
BI	NGSP Process Silo #2 Installation Date: 7/2000	Dust Collector Installation Date: 7/2000
BL	Fast Silo Installation Date: 1/2007	Dust Collector Installation Date: 1/2007
BM	NGSP2 Filler Hopper #1 Installation Date: 5/2007	Dust Collector Installation Date: 5/2007
BN	NGSP2 Filler Hopper #2 Installation Date: 5/2007	Dust Collector Installation Date: 5/2007
BQ	Fast Local Exhaust Installation Date: 5/2007	None

a) Potential to Emit Calculations

Engineering estimates were used to calculate emissions from emission points B1, B2, B3, B6, and BQ. Manufacturer specifications were used to determine emissions from emission points B7, B8, B9, BD, BH, BI, BL, BM, and BN. The methodology used to calculate emissions is consistent with that approved by DAQ during initial Conditional Major permit review.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The press mixer area was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the processes in the press mixer area. Pursuant to 401 KAR 59:010, particulate emissions from each of emission points B1, B3, B7, B8, B9, BD, BH, BI, BL, BM and BN shall not exceed the Allowable Rate Limit as calculated by the equation in 401 KAR 59:010, Section 3 (2). In addition, the visible emissions from each of the following emission points (B1, B3, B7, B8, B9, BD, BH, BI, BL, BM and BN) in the press mixer area shall not be greater than 20 % opacity.

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

c) Non-applicable Regulations

401 KAR 63:021, *Existing sources emitting toxic air pollutants*. The permittee has demonstrated that the previous limitations in permit F-97-005 on the following toxic emissions (acetic acid, carbon black, chromium oxide, dimethylformamide and organic tin) based on the version of 401 KAR 63:021 with an effective date of November 11, 1986 are no longer necessary to protect human health and the environment. The potential to emit of each toxic emission is well below the allowable limit given in the previous permit; therefore, this rule no longer applies.

3) Emission Units: Werner-Pfleiderer

EP	Description	Control Equipment
C1	Werner-Pfleiderer Process (Sealant Compounder) Installation Date: 7/1978	Filter Unit (Feed Hopper) Installation Date: 7/1978
C2	Werner-Pfleiderer Process (Sealant Compounder) Installation Date: 7/1978	Filter Units (2) – Installation Date: 7/1978 Scrubber (Buffalo) – Installation Date: 7/1980

a) Potential to Emit Calculations

Manufacturer specifications were used to determine emissions from the emissions point C1. Engineering estimates were used to calculate VOC and HAP emissions from emission point C2.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The Werner-Pfleiderer was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the processes in the Werner-Pfleiderer. Pursuant to 401 KAR 59:010, particulate emissions from each of emission points C1 and C2 shall not exceed

the Allowable Rate Limit as calculated by the equation in 401 KAR 59:010, Section 3 (2). In addition, the visible emissions from each emission point in the press mixer area shall not be greater than 20 % opacity.

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

4) Emission Units: ET-1 Batch Area

EP	Description	Control Equipment
F2	795 Devol Unit (Process Condensation Unit) Installation Date: 1/1981 <b>Shared w/ ET-1 Batch Area &amp; CU/WP-OXIME</b>	Condenser Installation Date: 1/1981
F5	Finger Mixer #2 – Sealant Catalyzer Installation Date: 7/1964	None
FE	Ross Mixer #1, Ross Mixer #5 (Sealant Pot Mixers) Installation Date: 7/1964	Maternity Ward Filler Hopper Installations Date: 8/1996
FK	Ross Mixer #2 (Sealant Pot Mixer) Installation Date: 7/1964	Dust Collector Installation Date: 8/1996
F4	Plant Vacuum Installation Date: 1963 <b>Shared w/ ET-1 Batch Area &amp; CU/WP-OXIME</b>	None
FA	Finger Mixer #6 – Sealant Catalyzer Installation Date: 9/1994	None
FL	Ross Mixer #3 (Sealant Pot Mixer) Installation Date: 7/1964	Dust Collector Installation Date: 8/1996
FJ	Meyers Mixer #1 (Sealant Pot Mixer) Installation Date: 7/1964	Dust Collector Installation Date: 8/1996
FP	Meyers Mixer #2 (Sealant Pot Mixer) Installation Date: 7/1964	Dust Collector Installation Date: 9/1995
FQ	Meyers Mixer #3 (Sealant Pot Mixer) Installation Date: 7/1964	Dust Collector Installation Date: 9/1997
FD	Ross Mixer #1, Ross Mixer #5 (Sealant Pot Mixers) Installation Date: 7/1964	Maternity Ward Dust Collector Installations Date: 10/1994
F7	Turello #2, Turello #4 (Sealant Pot Mixers) Installation Date: 7/1985, 7/1988	Mixer Filler Hopper Dust Collector Installation Date: 7/1975
F9	Turello #1 Mixer Filler Hopper Installation Date: 7/1985	Mixer Filler Hopper Dust Collector Installation Date: 7/1985
FC	Turello #1 Mixer Installation Date: 6/2002	Dust Collector Installation Date: 6/2002
FF	Turello #2 (Sealant Pot Mixer) Installation Date: 7/1985	Dust Collector Installation Date: 10/1994
FG	Turello #4 (Sealant Pot Mixer) Installation Date: 7/1988	Dust Collector Installation Date: 7/1996
FH	Turello #3 (Sealant Pot Mixer) Installation Date: 7/1986	Dust Collector Installation Date: 8/1996
FM	Ross Mixer #4 (Sealant Pot Mixer) Installation Date: 7/1964	Dust Collector Installation Date: 8/1996
FN	Turello #5 (Sealant Pot Mixer) Installation Date: 1/1997	Dust Collector Installation Date: 1/1997
FT	Turello #2, Turello #4 (Silica Hopper) Installation Date: 7/1985, 7/1988	Silica Hopper Dust Collector Installation Date: 10/1997
FX	Turello #2, Turello #4 (Bulk Bag Unload) Installation Date: 7/1985, 7/1988	Bulk Bag Unloading System Dust Collector Installation Date: 2/2006

a) Potential to Emit Calculations

Material balance was used to determine the particulate emissions from emission points FT and FX. Engineering estimates were used to determine emissions from emission points FC, FE, FF, FG, FH, FJ, FK, FL, FM, FN, FP, and FQ. Manufacturer specifications were used to

calculate emissions for emission points F2, F4, F5, F7, F9, and FD.

b) Applicable Regulations

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

401 KAR 59:010, *New process operations*

The ET-1 batch area was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the processes in the ET-1 batch area. Pursuant to 401 KAR 59:010, particulate emissions from the emission points shall not exceed the Allowable Rate Limit as calculated by the equation in 401 KAR 59:010, Section 3 (2).

c) Non-applicable Regulations

401 KAR 63:021, *Existing sources emitting toxic air pollutants*. The permittee has demonstrated that the previous limitations in permit F-97-005 on the following toxic emissions (acetic acid, carbon black, chromium oxide, dimethylformamide and organic tin) based on the version of 401 KAR 63:021 with an effective date of November 11, 1986 are no longer necessary to protect human health and the environment. The potential to emit of each toxic emission is well below the allowable limit given in the previous permit; therefore, this rule no longer applies.

5) Emission Units: CU/WP-OXIME

EP	Description	Control Equipment
F2	795 Devol Unit (Process Condensation Unit) Installation Date: 1/1981 Shared w/ ET-1 Batch Area & CU/WP-OXIME	Condenser Installation Date: 1/1981
F4	Plant Vacuum Installation Date: 1963 Shared w/ ET-1 Batch Area & CU/WP-OXIME	None
GA	Continuous Unit /WP-Oxime/WP-Oxime 2 (Condenser) Installation Date: 7/1975, 7/1982, 7/2005 Shared w/ CU/WP-OXIME & ABM Sylgard Tanks	None
G2	Continuous Unit Installation Date: 7/1975	Dust Collector Installation Date: 7/1975
G3	CU Local Exhaust Installation Date: 1975	None
G6	CU Local Exhaust #2 Installation Date: 6/2003	None
G7	WP-Oxime/WP-Oxime 2 Installation Date: 7/1982, 7/2005	Dust Collector Installation Date: 7/1975

a) Potential to Emit Calculations

Manufacturer specifications were used to determine the particulate emissions from emission points F4, GA, G2, and G7. Engineering estimates were used to determine emissions for points G3, and G6.

b) Applicable Regulations

401 KAR 59:010, *New Process Operations*

The CU/WP-Oxime was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the processes in the CU/WP-OXIME area. Pursuant to 401 KAR



59:010, emissions of particulate matter shall not exceed 5.52 lbs/hr and 7.09 lbs/hr from emission points G2 and G7, respectively. In addition, the visible emissions from emission points G2 and G7 shall not equal or be greater than 20 % opacity. (Note: There are no particulate emissions from F2, F4, GA, G3 or G6.)

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*, applies to each affected facility, which emits or may emit potentially hazardous matter or toxic substances.

c) Non-applicable Regulations

401 KAR 63:021, *Existing sources emitting toxic air pollutants*. The permittee has demonstrated that the previous limitations in permit F-97-005 on the following toxic emissions (acetic acid, carbon black, chromium oxide, dimethylformamide and organic tin) based on the version of 401 KAR 63:021 with an effective date of November 11, 1986 are no longer necessary to protect human health and the environment. The potential to emit of each toxic emission is well below the allowable limit given in the previous permit; therefore, this rule no longer applies.

6) Emission Units: AUTOMATIC BATCH MIXER (ABM) SYLGARD TANKS

EP	Description	Control Equipment
GA	Continuous Unit /WP-Oxime/WP-Oxime 2 (Condenser) Installation Date: 7/1975, 7/1982, 7/2005 <b>Shared w/ CU/WP-OXIME &amp; ABM Sylgard Tanks</b>	None
H2	Automatic Batch Mixer Installation Date: 7/1964	ABM Filler Hopper Dust Collector Installation Date: 7/1979
H7	Automatic Batch Mixer (Automatic Sealant Pot Mixer) Installation Date: 7/1964	ABM Powder Station Dust Collector Installation Date: 4/2006

a) Potential to Emit Calculations

Manufacturer specifications were used to determine emissions from the emission point GA and H2. Engineering estimates were used to calculate emissions from emission point H7.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The ABM Sylgard Tanks area was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the ABM Sylgard Tanks area. Pursuant to 401 KAR 59:010, emissions of particulate matter shall not exceed 4.12 lb/hr from emission points H2 and H7. In addition, the visible emissions from emission points H2 and H7 shall not equal or be greater than 20 % opacity.

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

7) Emission Units: TREATED SILICA MFG. (TUMBLERS)

EP	Description	Control Equipment
J1	Tumbler (Treated Filler Mixer) Treated Silica Silo Installation Date: 7/1975	Dust Collector Installation Date: 12/1975
J2	Tumbler (Treated Filler Mixer) Installation Date: 7/1973	Dust Collector Installation Date: 7/1973
J4	Tumbler (Treated Filler Mixer) Installation Date: 7/1973	Dust Collector Installation Date: 7/1986

a) Potential to Emit Calculations

Manufacturer specifications were used to determine the particulate emissions from emission points J1, J2 and J4.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The treated silica mfg. (tumbler) area was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the treated silica mfg. (tumbler) area. Pursuant to 401 KAR 59:010, emissions of particulate matter shall not exceed 2.34 lb/hr from each of emission points J1, J2, and J4. In addition, the visible emissions from each of emission points J1, J2, and J4 shall not equal or be greater than 20 % opacity.

8) Emission Units: ROOF COATING AREA

EP	Description	Control Equipment
K1	Roof Coating Room Local Exhaust Installation Date: 6/1982	None
K2	Roof Coating Room Losses Installation Date: 1/1982	None
K3	Meyers Mixer #4 (Sealant Pot Mixer) Installation Date: 10/1996	Roof-coating Room Dust Collector Installation Date: 1/1997

a) Potential to Emit Calculations

Manufacturer specifications were used to determine the particulate emissions from emission point K2. Engineering estimates were used to determine emissions from emission points K1 and K3.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The roof coating area was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the roof coating area. Pursuant to 401 KAR 59:010, emissions of particulate matter shall not exceed 4.12 lb/hr from emission point K3. In addition, the visible emissions from emission point K3 shall not equal or be greater than 20 % opacity. (Note: There are no particulate emissions from K1 or K2.)

9) Emission Units: BULK FILLER STORAGE (SILOS)

EP	Description	Control Equipment
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L1	Silos 1, 2, and 3 (Filler Storage Silos) Installation Date: 7/1978, 3/2000	Dust Collector Installation Date: 12/1975
L2	Silo 4 (Filler Storage Silo) Installation Date: 7/1985	Dust Collector Installation Date: 7/1985
L3	Silo 5 (Filler Storage Silo) Installation Date: 7/1985	Dust Collector Installation Date: 11/1986
L4	Silo 6 (Filler Storage Silo) Installation Date: 7/1982	Dust Collector Installation Date: 4/1982
L5	Silo 7 (Filler Storage Silo) Installation Date: 7/1979	Dust Collector Installation Date: 4/1979
L6	Silo 8 (Filler Storage Silo) Installation Date: 7/1979	Dust Collector Installation Date: 4/1979

a) Potential to Emit Calculations

Engineering estimates were used to determine the particulate emissions from emission points L1 through L6.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The bulk filler storage (silos) was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the bulk filler storage (silos). Pursuant to 401 KAR 59:010, total emissions of particulate matter shall not exceed the Allowable Rate Limit as calculated by the equation in 401 KAR 59:010, Section 3 (2) from emission points L1 through L6. In addition, the visible emissions from each emission point (L1, L2, L3, L4, L5, L6) shall not equal or exceed 20 %.

10) Emission Units: HEATING OPERATIONS

EP	Process ID	Description
N1*	Natural Gas Boiler #1 Installation Date: 1963	8.4 mmBTU/hr boiler
N2*	Natural Gas Boiler #2 Installation Date: 1963	8.4 mmBTU/hr boiler
N4	Syltherm Heater Firing Natural Gas Fuel Installation Date: 1991	2.5 mmBTU/hr oil heater
N7	Syltherm Heater #2 Firing Natural Gas Fuel Installation Date: 1998	2.5 mmBTU/hr oil heater
N9	Natural Gas Boiler #4 Installation Date: 2002	8.4 mmBTU/hr boiler
NA	Natural Gas Boiler #5 Installation Date: 2002	8.4 mmBTU/hr boiler
NB	Natural Gas Boiler #6 Installation Date: 2002	4.2 mmBTU/hr boiler

**\*Boilers (N1 & N2) will be used as back ups and are existing boilers.**

a) Potential to Emit Calculations

AP-42, Chapter 1.4, Tables 1.4-1, -2 and -3 were used to determine the natural gas combustion emissions from the emission points N1, N2, N9, NA and NB. AP-42, Chapter 1.3, Tables 1.3-1, -2 and -3 were used to determine the #2 fuel oil combustion emissions from the emission units N1, N2, N4, N7, N9, NA and NB.

b) Applicable Regulations

- i. 401 KAR 59:015, *New indirect heat exchangers (N4, N7, N9, NA, NB)*; and
- ii. 401 KAR 61:015, *Existing indirect heat exchangers (N1, N2)*.

Pursuant to 401 KAR 59:010 and 401 KAR 61:015, emissions of PM/PM<sub>10</sub> and SO<sub>2</sub> shall not exceed the following limits.

Emission Point	PM/PM <sub>10</sub> Allowable (Lb/mmBTU)	SO <sub>2</sub> Allowable (Lb/mmBTU)
N1 and N2	0.75	4.6
N4, N7, N9, NA, and NB	0.4	1.65

In addition, pursuant to 401 KAR 59:015, opacity of visible emissions from emission points N4, N7, N9, NA, and NB shall not exceed 20% and the opacity of visible emissions from emission points N1 or N2, shall not exceed 40%.

c) Non-applicable Regulations

401 KAR 63:002, Section 2(5) - 40 C.F.R. Part 63, Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers*, incorporated by reference.

The requirements of 40 CFR 63, Subpart DDDDD, are not included in the permit for the emission points, identified as N1, N2, N4, N7, N9, NA and NB. While these units are considered as existing small gaseous fuel units as defined by 40 CFR 63.7575 (i.e., heat input rating for each unit is less than or equal to 10 million Btu per hour), the source has limited combined HAP emissions to below 25 tons per year and any individual HAP emission to below 10 tons per year. Therefore, the facility is a minor source of HAP emissions, as defined at 40 CFR 63.2, and Subpart DDDDD is not applicable.

11) Emission Units: MISCELLANEOUS CLEANING OPERATIONS

EP	Description	Control Equipment
P1	Large Beringer Oven and Small Beringer Oven (Parts Cleaning Ovens) Installation Date: 7/1980	Scrubber Installation Date: 7/1985
P2	Small Beringer Oven and Small Beringer Oven (Parts Cleaning Ovens) Installation Date: 7/1985	Dust Collector Installation Date: 7/1989

a) Potential to Emit Calculations

Manufacturer specifications were used to calculate VOC and HAP emissions from emission point P1. Engineering estimates were used to determine the particulate emissions from the emission point P2.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The miscellaneous cleaning operations were installed after July 2, 1975, therefore the

requirements of 401 KAR 59:010 apply to the miscellaneous cleaning operations. Pursuant to 401 KAR 59:010, particulate emissions from emission point P2 shall not exceed 2.34 lb/hr. In addition, the visible emissions from P2 shall not equal or be greater than 20 % opacity. (Note: There are no particulate emissions from P1.)

c) Non-applicable Regulations

401 KAR 63:021, *Existing sources emitting toxic air pollutants*. The permittee has demonstrated that the previous limitations in permit F-97-005 on the following toxic emissions (acetic acid, carbon black, chromium oxide, dimethylformamide and organic tin) based on the version of 401 KAR 63:021 with an effective date of November 11, 1986 are no longer necessary to protect human health and the environment. The potential to emit of each toxic emission is well below the allowable limit given in the previous permit; therefore, this rule no longer applies.

12) Emission Units: LATEX PROCESS

EP	Description	Control Equipment
S2	Latex Sealant Turello #6 Filler Hopper (Sealant Pot Mixer) Installation Date: 1/2000	Dust Collector Installation Date: 1/2000
S3	Turello #6 Vacuum Installation Date: 1/2000	None
S5	Latex Sealant Turello #6 (Sealant Pot Mixer) Installation Date: 1/2000	Dust Collector Installation Date: 1/1999
S6	Latex Sealant Turello #7 Filler Hopper (Sealant Pot Mixer) Installation Date: 1/2000	Dust Collector Installation Date: 1/2000
S7	Turello #7 Vacuum Installation Date: 1/2000	None
S8	Latex Sealant Turello #7 (Sealant Pot Mixer) Installation Date: 1/2000	Dust Collector Installation Date: 1/1999
SA	Pot Cleaner Exhaust Installation Date: 1/2000	None

a) Potential to Emit Calculations

Engineering estimates were used to calculate VOC and HAP emissions from emission points S3, S7, and SA. Manufacturer specifications were used to determine the particulate emissions from the emission points S2, S5, S6, and S8.

b) Applicable Regulations

401 KAR 59:010, *New process operations*

The latex process was installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the latex process. Pursuant to 401 KAR 59:010, particulate emissions from emission points S2, S5, S6 and S8 shall not exceed 2.68 lb/hr. In addition, the visible emissions from S2, S5, S6 and S8 shall not equal or be greater than 20 % opacity. (Note: There are no particulate emissions from S3, S7 or SA.)

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

13) Insignificant Activities

a) Applicable Regulations

	<u>Description</u>	<u>Emission Pt.</u>	<u>Generally Applicable Regulation</u>	<u>Installation Date</u>
1.	NGSP Process Exhaust	BA	None	1999
2.	NGSP Drum Off Exhaust	BB	None	1999
3.	NGSP Additive Tanks	BC	401 KAR 63:020	1999
4.	NGSP Fugitive Emissions	BE	401 KAR 63:010	1999
5.	NGSP Additive Room Exhaust	BJ	401 KAR 63:020	2004
6.	T-8116 Tank	BK	None	2006
7.	HPM Area Fugitives	B5	401 KAR 63:010	1990
8.	WP Polymer Tank	C4	None	1978
9.	WP Area Fugitives	C5	401 KAR 63:010	1978
10.	WP Geyer Drum Exhaust	C6	None	2003
11.	WP Mechanical Room Exhaust	C7	None	2003
12.	T2-5103 Tank	C8	None	2003
13.	T-1400	D1	None	1980
14.	T-2100	D2	None	1984
15.	T-2107	D3	None	1985
16.	T-657, T658	D4	None	1989
17.	T-1033, T-1034, T-1036	D5	None	1969
18.	T-1032, T-1422, T-1433, T-650	D6	None	1970,1980,1989
19.	KP-2 Product Tanks (11)	D7	None	1966
20.	KP-1 Product Tanks (11)	D8	None	1963,1976
21.	T-104	D9	None	1963
22.	T-1301	DA	None	1978
23.	T-1302, T-1303	DB	None	1978
24.	T-1304, T-1351	DC	401 KAR 63:020	1978
25.	T-107, T-108	DD	None	1963
26.	T-3829	DE	None	2000
27.	KP-1 Vacuum System	E1	None	1985
28.	KP-2 Vacuum System	E2	None	1980
29.	KP-3 Vacuum System	E3	None	1990
30.	T-608	E4	None	1968
31.	T-629	E5	None	1997
32.	T-648	E6	None	1985
33.	T-649	E7	None	2003
34.	T-916	E8	None	1968
35.	T-1001	E9	None	1980
36.	T-1022	EA	None	1980
37.	ET-8 Primer Room Exhaust	F1	401 KAR 63:020	1991
38.	Pot Cleaning/Devol Area Vent	F3	401 KAR 63:020	1981
39.	8-0084 Tank	F6	None	1978
40.	Manufacturing Oven	F8	401 KAR 63:020	1963
41.	Devol Area Fugitives	FR	401 KAR 63:010	1981
42.	Batch Area Fugitives	FS	401 KAR 63:010	1975
43.	T-3 PB Fluid Tank	FU	None	2001

44.	T-8070 Catalyst Tank	FV	401 KAR 63:020	2002
45.	T-8071 Tank	FW	None	2002
46.	WP-Oxime Exhaust	G1	None	1982
47.	CU/WP-Oxime Fugitives	G4	401 KAR 63:010	1982
48.	Sylgard Tank	H1	None	1973
49.	ABM Catalyst Tank	H3	None	1979
50.	Sealant Rework Local Exhaust	H4	None	1996
51.	ABM Ross Vent	H5	401 KAR 63:020	2006
52.	ABM Drum Scales Vent	H6	401 KAR 63:020	2006
53.	Tumbler Dryer Exhaust	J3	None	1973
54.	Tumbler Z-6079 Tank	J5	None	2002
55.	Roof-coating Tank Exhaust	K4	None	2003
56.	Lab Oven Vent	M1	401 KAR 63:020	1963
57.	Lab Small Equipment Vent	M2	401 KAR 63:020	1963
58.	Lab QA Oven Vent	M3	401 KAR 63:020	1963
59.	Lab Hoods (8)	M4	401 KAR 63:020	1963
60.	Glycol Heater #1	N5	None	1984
61.	Glycol Heater #2	N6	None	1994
62.	ET-1 Parts Cleaners	P3	None	1991
63.	Parts Cleaners (5)	P4	None	1991
64.	Fugitive Dust (Unpaved Roads)	R1	401 KAR 63:010	1963
65.	Latex Sealant Local Exhaust	S4	401 KAR 63:020	2000
66.	Latex Blend Tank	SB	None	2002
67.	T-8116	BK	None	2006
68.	T1-8121	BR	None	2007
69.	Fast Scale Exhaust #1	BO	401 KAR 63:020	2007
70.	Fast Scale Exhaust #2	BP	401 KAR 63:020	2007
71.	Recovery Tanks	BS	401 KAR 63:020	2007

b) Potential to Emit Calculations

Engineering estimates were used to calculate emissions from emission points BA, BB, BJ, B5, C6, C7, F1, F3, G1, H4, H5, H6, M2, M4, P3, P4, and S4. AP-42 emission factors were used to calculate emissions from emission point BK. Manufacturer specifications were used to calculate the emissions from emission points BC, BE, C5, C8, D1, D2, D3, D4, D5, D6, D7, D8, D9, DA, DB, DC, DD, DE, E1, E2, E3, E4, E5, E6, E7, E8, E9, EA, F6, F8, FR, FS, FU, FV, FW, G1, G4, H1, H3, J3, J5, K4, M1, M3, R1, and SB.

c) Non-applicable Regulations

- i. Pursuant to 401 KAR 59:050, New Storage Vessels for Petroleum Liquids, this rule applies to each storage vessel for petroleum liquids with a storage capacity of greater than 2,195 liters (580 gallons) that commenced before the classification date of July 24, 1984, and which is located in a county or portion of a county designated ozone nonattainment under 401 KAR 51:101, except marginal nonattainment. The vessels listed under insignificant activities do not store petroleum liquids.
- ii. Pursuant to 40 CFR 63.460 (a), the requirements of 40 CFR 63, Subpart T, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Halogenated Solvent Cleaning*, apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride (CAS

No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. The parts washers, as insignificant activities, do not use any of the solvents mentioned above in a total concentration greater than five (5) percent and the source is an area source for HAP emissions. Therefore, the parts washers are not subject to the requirements of 40 CFR 63, Subpart T.

**EMISSION AND OPERATING CAPS DESCRIPTION:**

Just as permit F-05-037, Dow Corning Corporation will still continue to operate under the permit limits of less than 9.0 tons per year of individual hazardous air pollutants (HAP), less than 22.5 tons per year of combined HAPs, and less than 90 tons per year of VOC.

**PERIODIC MONITORING:**

Refer to Section B in permit F-05-037 R1 for specific monitoring conditions.

**OPERATIONAL FLEXIBILITY:**

The source is not restricted as to hours of operation or quantity of product produced while remaining within the caps above.

**CREDIBLE EVIDENCE:**

This permit contains provisions, which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.